



INTERNATIONAL GRADUATE COLLOQUIUM

i-SPEAK 2025

SPORTS AND PHYSICAL EXERCISE ASSEMBLY OF KNOWLEDGE SHARING

COLLOQUIUM PROCEEDINGS

**EXTENDED
ABSTRACT**

Analysing Mental Toughness Level Across Demographic Factors Among Gunung Angsi Hikers

Nurfatini Mohd Rozaimi¹ & Mohd Shariman Shafie^{1*}

¹Faculty of Sports Science and Recreation, Universiti Teknologi MARA, Negeri Sembilan Branch, Seremban Campus, Negeri Sembilan, MALAYSIA

*Corresponding author: shariman_shafie@uitm.edu.my

Keywords: Mental toughness, Demographic factors, Hiking, Outdoor recreation, Adventure-based

I. INTRODUCTION

This study explores mental toughness among hikers at Gunung Angsi by examining its differences among gender, marital status, and occupation. Unlike previous research focused on athletes [1][2], and employees [3], this study addresses gaps in outdoor recreation contexts. Using the AbMTI tool, it evaluates psychological resilience across diverse demographic profiles, aiming to enhance performance strategies and support systems in outdoor activities.

II. METHODS

This quantitative study employed convenience sampling to recruit 240 hikers at Gunung Angsi. Data were collected using the validated Adventure-based Mental Toughness Inventory (AbMTI), which measures seven mental toughness dimensions [4]. Descriptive statistics were computed, while inferential analysis of Independent t-test and ANOVA were conducted using JAMOVI software to assess differences in mental toughness across gender, marital status, and occupation.

III. RESULTS AND DISCUSSION

A. Demographic Factors

The sample consisted of 240 hikers, nearly equally split between males (49.6%) and females (50.4%). The most represented age group was 18–27 years old (29.6%). The most common occupation was employed individuals (40.0%), and the majority were single (42.9%). Most hikers have 7-9 years' experience in hiking (27.9%) and hikes 1-2 times a month (37.5%). This indicates a predominantly young, working, and unmarried hiking population, with experienced but rarely hikes.

B. Mental Toughness

The overall mean mental toughness score was 3.83, reflecting a high level of psychological resilience among hikers. Among the seven AbMTI domains, Control had the highest mean scores (3.86), while Coping Skills recorded the lowest (3.80), suggesting most hikers excel in regulating emotions, energy, and attitudes under pressure but may need support in managing stress effectively.

C. Gender Difference in Mental Toughness

Female hikers ($M = 3.87$) had a slightly higher mental toughness mean than male ($M = 3.80$), but the difference was

not statistically significant ($t(238) = -0.581, p = 0.562$). These findings suggest that gender does not significantly influence mental toughness in adventure-based activities ($p > 0.05$).

TABLE I
MENTAL TOUGHNESS DIFFERENCE ON GENDER

	Group	N	Mean	t	df	p
Mental Toughness	Male	119	3.80	-0.581	238	0.562
	Female	121	3.87			

D. Marital Status Difference in Mental Toughness

Single individuals had the highest mean mental toughness ($M = 4.06$), while the lowest was widow ($M = 3.42$). A significant difference was found between single and divorcees, and between single and widows ($p < 0.05$). This suggests that marital status does affect mental toughness in adventure-based activities.

TABLE II
MENTAL TOUGHNESS DIFFERENCE ON MARITAL STATUS

		Single	Married	Divorcee	Widow
Single	Mean	—	0.267	0.531	0.641
	difference p-value	—	0.230	0.014	0.014
Married	Mean	—	—	0.265	0.374
	difference p-value	—	—	0.504	0.312
Divorcee	Mean	—	—	—	0.110
	difference p-value	—	—	—	0.966
Widow	Mean	—	—	—	—
	difference p-value	—	—	—	—

E. Occupation Difference in Mental Toughness

Occupation showed significant effects: unemployed individuals scored lowest ($M = 2.82$), while retirees scored highest ($M = 4.11$). The findings showed a significant difference with unemployed exhibiting lower mental toughness compared to other groups ($p < 0.05$). Employment status may influence an individual's capacity to manage psychological resilience in adventure-based activities.

TABLE III
MENTAL TOUGHNESS DIFFERENCE ON OCCUPATION

		Student	Employed	Un- employed	Self- employed	Retiree
Student	Mean difference	—	-0.329	0.885	-0.3952	-0.4119
	p-value	—	0.199	0.002	0.132	0.099
Employed	Mean difference		—	1.214	-0.0666	-0.0833
	p-value		—	<.001	0.989	0.973
Un- employed	Mean difference			—	-1.2803	-1.2970
	p-value			—	<.001	<.001
Self- employed	Mean difference				—	-0.0167
	p-value				—	1.000
Retiree	Mean difference					—
	p-value					—

IV. CONCLUSIONS

This study highlights that while gender does not significantly influence hikers' mental toughness, marital status and occupation plays a key role. Student, employed, self-employed, and retired individuals show greater resilience than the unemployed. These insights can inform tailored support programs for enhancing psychological readiness in outdoor recreation settings.

ACKNOWLEDGEMENTS

The researchers gratefully appreciated the Faculty of Sports Science and Recreation, UiTM Seremban Campus, for guidance. Special thanks to all participating hikers for their invaluable support and contributions.

REFERENCES

- [1] Shafe, M. S., Che Mat, H., Md. Taff, M. A., Johanis, N. J., Mohd Said, O. F., Hashim, M., Ab Aziz, M. N., & Rahman, M. W. A. (2022). Development of adventure-based mental toughness inventory (ABMTI): Need survey analysis among Malaysian active outdoor practitioners. *Malaysian Journal of Sport Science and Recreation*, 18(1), 1–13. <https://doi.org/10.24191/mjssr.v18i1.17612>.
- [2] Wolter, A., Haqiyah, A., Tangkudung, J., Abidin, D., Basri, H., & Mahmudah, M. (2022). Do age, gender, and match experience affect the mental toughness of martial art athletes? *International Journal of Human Movement and Sports Sciences*, 10(3), 612–618. <https://doi.org/10.13189/saj.2022.100330>.
- [3] Khawar, H., Mehdi, W., Ashghar, A., Gull, M., Senior, B., & Mahmood, S. (2023). The effect of different demographic variables on mental toughness, occupational stress and mental health problems in salesgirls in Pakistan. *Res Militaris*, 13(1), 1–17. <https://resmilitaris.net/uploads/paper/0625693220c843a2ee67e55036d23847.pdf>.
- [4] Shafe, M. S., Md Taff, M. A., Johanis, N. J., Mohd Said, O. F., Che Mat, H., Hashim, M., Ab Aziz, M. N., & Mohamed Afandi, M. A. (2022). A structural equation modelling approach for validation of adventure-based mental toughness inventory (ABMTI). *Malaysian Journal of Sport Science and Recreation*, 18(2), 14–28. <https://doi.org/10.24191/mjssr.v18i2.19585>.